

PORT OF LIVERPOOL



ANNUAL REPORT

OF THE

MEDICAL OFFICER OF HEALTH

TO THE

PORT HEALTH AUTHORITY

FOR THE YEAR

1960

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PORT HEALTH AUTHORITY OF LIVERPOOL

REPORT FOR THE YEAR 1960

BY THE
MEDICAL OFFICER OF HEALTH

This is the 88th Annual Report upon the work of the Liverpool Port Health Authority.

The Permanent Constitution of the Liverpool Port Health Authority defines the limits of the port for health purposes, as coincident with the limits laid down by H.M. Customs. By "The Appointment of the Port of Liverpool Order, 1956", the port of Liverpool is "An area bounded by a line:

(1) commencing at the termination of the port of Chester, namely at Hilbre Point (which is referred to as the Red Stones in Hoylake on the Point of Wirral in the Treasury Warrant dated 16th December, 1847, appointing the port of Chester): and

(2) continuing up the River Mersey on the Cheshire shore to Ince Ferry the western termination on the Cheshire shore of the port of Manchester, but excluding (where it touches the port of Manchester) so much of the Eastham Channel in the River Mersey as is enclosed by an imaginary line of dolphins on the east side of the Eastham Channel and, at a distance of five hundred and thirty-eight yards from the seaward extremity of the eighty feet lock at Eastham, a further imaginary line to the foreshore at right angles to the first line: thence

(3) crossing the River Mersey in a supposed straight line to Dungeon Point being the western termination on the Lancashire shore of the port of Manchester: and

(4) continuing along the coast of the County of Lancaster to the southern boundary of the port of Preston, namely an imaginary line drawn in a true north-west direction from the inner north-west sea mark on the beach at Formby Point shown in the Admiralty chart of Liverpool Bay, dated 9th July, 1954.

The port shall include all islands, rivers, bays, channels, roads, bars, strands, harbours, havens, streams, and creeks (except the Manchester Ship Canal) with the specified limits and shall extend seaward to a distance of three miles from low water mark along the coast within the specified limits.”

SECTION I STAFF

TABLE A

(as required by the Ministry of Health, quinquennially)

Name of Officer	Nature of Appointment	Date of Appointment	Qualifications	Any other Appointments held
Professor Andrew B. Semple	Medical Officer of Health	5.12.52	V.R.D., M.D., Ch.B., D.P.H.	Medical Officer of Health City of Liverpool. Professor of Public Health University of Liverpool. Supervising Medical Inspector of Aliens.
Dr. J. B. Meredith Davies	Deputy Medical Officer of Health	1.5.53	M.D., B.S., D.P.H.	Deputy Medical Officer of Health, City of Liverpool. Medical Inspector of Aliens. Lecturer in Public Health University of Liverpool.
Dr. T. L. Hobday ...	Principal Medical Officer	19.6.58	M.B., Ch.B., M.R.C.S., L.R.C.P., D.P.H., D.P.A.	Medical Inspector of Aliens
Dr. A. J. Graham ...	Assistant Medical Officer	12.6.59	L.R.C.P., L.R.C.S.(Ed.), L.R.F.P.S.(Glas), D.P.H.	Medical Inspector of Aliens
Dr. A. Griffith ...	Boarding Medical Officer (part-time)	1.1.59	M.B., Ch.B., C.P.H.	Assistant Medical Officer City of Liverpool. Medical Inspector of Aliens
Dr. D. E. Phillips ...	Boarding Medical Officer (part-time)	1.4.60	M.R.C.S., L.R.C.P.	Assistant Medical Officer City of Liverpool. Medical Inspector of Aliens

Name of Officer	Nature of Appointment	Date of Appointment	Qualifications	Any other Appointments held
L. G. McCoy ...	Chief Port Health Inspector	7.6.46	Certificate of the R.S.I. and Sanitary Inspectors Examination Joint Board: Liverpool University School of Hygiene Sanitary Science Certificate: Liverpool University School of Hygiene Meat and Food Certificate.	—
H. Rodgers ...	Deputy Chief Port Health Inspector	12.12.51	Certificate of the R.S.I. and Sanitary Inspectors Examination Joint Board: Liverpool University School of Hygiene Sanitary Science Certificate: Liverpool University School of Hygiene Meat and Food Certificate.	—
F. E. Spicer ...	Port Health Inspector	26.10.30	R.S.I. Sanitary Certificate: Liverpool University School of Hygiene Meat and Food Certificate: Liverpool University School of Hygiene Port Sanitary Certificate.	—
H. O. Parry ...	Port Health Inspector	6.2.56	M.O.T. Certificate as Master (Home Trade): Public Health Inspectors Education Board Certificate	—
D. W. Thomas ...	Port Health Inspector	7.2.56	M.O.T. Certificate as 1st Mate (Foreign-going). Public Health Inspectors Education Board Certificate.	—
B. D. Jones ...	Assistant Port Health Inspector	1.6.60	School Certificate: M.O.T. Certificate as Master (Foreign-going).	—
E. M. Dutton ...	Chief Port Food Inspector	10.1.60	Certificate of the R.S.I. and Sanitary Inspectors Examination Joint Board: R.S.I. Meat and Other Foods Certificate.	—

Name of Officer	Nature of Appointment	Date of Appointment	Qualifications	Any other Appointments held
Mr. G. A. Williams ...	Deputy Chief Port Food Inspector	10.1.60	Liverpool University School of Hygiene Meat and Food Certificate.	—
Mr. A. C. Gladdish ...	Port Food Inspector	18.7.30	Liverpool University School of Hygiene Meat and Food Certificate: Liverpool University School of Hygiene Sanitary Science Certificate.	—
Mr. C. Kitchen ...	Port Food Inspector	29.6.33	Liverpool University School of Hygiene Meat and Food Certificate: Liverpool University School of Hygiene Sanitary Science Certificate National Federation Meat Traders Diploma: R.S.I. Food Hygiene Certificate.	—
Mr. E. Moore ...	Port Food Inspector	18.7.30	Liverpool University School of Hygiene Meat and Food Certificate: Liverpool University School of Hygiene Sanitary Science Certificate.	—
Mr. W. McGeough ...	Port Food Inspector	8.7.55	Diploma Scottish Meat Traders Association: R.S.I. Sanitary Association of Scotland Certificate.	—
Mr. J. McLarnon ...	Assistant Port Food Inspector	23.5.60	G.C.E.: National Certificate in Chemistry: Diploma in General Food Technology.	—
Mr. K. J. Ramsden ...	Assistant Port Food Inspector	1.7.60	Cambridge School Certificate.	—
Mr. G. M. Gillies ...	Administrative Assistant	6.5.59	L.G.E.B. Promotion Examination.	—
Mr. J. H. Glover ...	Clerical Officer	15.6.59	School Certificate: L.G.E.B. Clerical Examination.	—

Name of Officer	Nature of Appointment	Date of Appointment	Qualifications	Any other Appointments held
R. E. Harrison ...	Shorthand-Typist	27.7.59	G.C.E.: Liverpool College of Commerce Commercial Diploma: Pitmans Shorthand Certificate: R.S.A. Advanced Typing Certificate.	—

In addition to the above staff ten rodent operatives are also employed: Mr. T. M. Rigby (man), Messrs A. J. Blance, P. J. Campbell, P. Cooke, E. J. Fitzpatrick, W. Jones, E. Lee, J. H. Owens, E. Reeve, J. D. Wilson.

Address and telephone number of the Medical Officer of Health } Health Department, Hatton Garden, Liverpool, 3 CENTral 8433.

SECTION II

TABLE B

AMOUNT OF SHIPPING ENTERING THE DISTRICT DURING THE YEAR 1960

Ships from	Number	Tonnage	Number Inspected		Number of ships reported as having, or having had during the voyage, infectious disease on board
			By Medical Officers	By Port Health Inspectors	
Foreign Ports...	6,425	15,132,060	429	5,011	102
Coastwise ...	5,217	3,684,922	—	160	2
Total ...	11,642	18,816,982	429	5,171	104

SECTION III

TABLE C

CHARACTER OF SHIPPING AND TRADE DURING THE YEAR

PASSENGER TRAFFIC

No. of passengers INWARDS	No. of passengers OUTWARDS
170,183	162,047

(These figures do not include traffic between Liverpool and Northern Ireland.)

CARGO TRAFFIC

Principal Imports	Principal Exports
Flour, grain, etc., sugar, molasses, etc., wood, fruit and vegetables, cotton, ores and scraps, meat, feeding stuffs for animals, tea, butter, cheese, eggs, etc., cocoa, seeds or nuts for expressing oils, copper, coal, oils, fats, resins and gums, hemp, jute, sisal, etc., hides and skins, tobacco, rubber.	Iron and steel manufactures, chemicals and sodas, salt, machinery, pottery, glass and glassware, sugar, molasses, etc., flour, grain, etc., copper, brass, tin, etc., soap and oils, etc., ale, beer, wine, spirits, etc., cement, electrical goods, etc., paper, cardboard, etc., vehicles, aircraft, motor cars, locomotives, etc., bricks, cutlery, hardware, etc., fine goods.

Ships arrive in Liverpool from ports all over the world.

SECTION IV
INLAND BARGE TRAFFIC

The number of barges plying in and about the port of Liverpool is approximately 200 with an estimated total tonnage of 30,000 tons.

CANAL BOATS (Public Health Act, 1936, Part X)

The number of canal boats still on the Liverpool Register is 552, but many of these boats do not operate in the port area. There are only a small number of canal boats, still used as dwellings, plying in and about the docks. Most barges are employed as "Day Boats", the crews living aboard only during the day.

During 1960 there has been a very considerable reduction in the number of canal boats employed in the port.

No. of boats inspected	...	...	...	...	73
No. of boats with contraventions	...	...	...	...	2
No. of contraventions	...	...	...	...	5
No. of contraventions corrected	...	...	...	...	5
No. of boats inspected for registration	...	...	...	...	—

SECTION V
WATER SUPPLY

(1) There has been no change in the source of water supply for either the seaport or the airport.

(2) The port health inspectors have continued to keep a constant check on the cleanliness and condition of drinking water in ships. Periodic routine samples of water have been taken from ships entering the port and samples have also been taken on request, or where there has been any question of contamination. During the year 303 samples of water were taken and submitted for bacteriological examination: 60 samples were considered to be unsatisfactory, and the necessary action was taken. These samples were taken from 52 ships, 13 tugboats, 1 ferryboat, 1 aircraft and 2 airport premises. Good co-operation has been received from the Ministry of Transport, ship-owners, agents and the airport management.

(3) There are no water boats in regular use in the River Mersey. There is one tender, several tugboats and one hopper which are equipped to carry water and which are used under special circumstances only.

SECTION VI

PUBLIC HEALTH (SHIPS) REGULATIONS, 1952

(1) *List of Infected Areas.*

The list of infected ports is as follows: Rangoon, Dar-es-Salaam, Rio de Janeiro, all ports in China, Indo-China, India, Pakistan, Belgian Congo, Liberia, Nigeria (including British Cameroons), Ghana, Colombia, and Ecuador. This list is compiled from the Weekly Epidemiological Record of W.H.O. and is notified, in written form, to all officers of H.M. Customs, the river pilotage service, and Mersey Docks and Harbour Board.

(2) Incoming vessels from infected ports are required to notify their time of arrival by radio, signals to be sent not less than four hours before arrival in the river. Normally this signal is sent when the Mersey Pilots board vessels off Anglesey. Further information concerning the movements of such a ship is relayed by the Port Radar Station, which receives information from the river pilots' portable short-wave radio. Suitable arrangements are then made between the medical officer and the master of the boarding tender, and the medical officer boards and inspects the vessel as it enters the Mersey.

The port health tender, which is chartered from the Liverpool Fire Service, is the vessel "William Gregson" which is equipped with two-way radio, emergency medical supplies, and a cradle designed to assist in the transshipment of sick persons.

(3) *Notifications Other Than By Radio.*

Many shipping companies notify the arrival of their vessels by letter or telephone. This has not been found to be always reliable and radio messages from incoming vessels are always required.

(4) There has been no change in the designated mooring stations allotted for the examination of shipping, though most vessels are examined while under way.

The number of ships visited by the boarding medical officers during the year was 429 of which 273 were from infected ports.

By arrangement with Manchester Port Health Authority, vessels bound for Manchester from infected ports are examined by the Liverpool Port Health Authority in the river. During 1960, 53 of the vessels boarded were bound for Manchester.

(5) (a) Cases of infectious diseases, other than quarantinable diseases, are accommodated in Fazakerley Isolation Hospital.

(b) There has been no change in the method of surveillance and follow-up of contacts of infectious diseases.

(c) Any disinfection which may be required in ships is done by inspectors of the Port Health Authority. During 1960, 66 disinfections after infectious disease were carried out. Infected beds and bedding were removed for steam disinfection.

PUBLIC HEALTH (AIRCRAFT) REGULATIONS, 1950

Liverpool is served by a major airport at Speke, 9 miles from the City centre. The Port Health Authority is responsible for enforcing the above regulations in the airport. Passenger aircraft arriving at the airport come from other airports within the United Kingdom, Eire, and the Continent, and few aircraft arrive directly from infected areas. An examination room is maintained in the main airport building, and the medical officers on the Port staff who hold appointments as Medical Inspectors under the Aliens Order, are available at the request of the Immigration Authorities to conduct inspections of persons arriving by air. All passengers arriving from an infected area are inspected and the validity of their medical certificates ascertained.

Forewarning of such aircraft is given by H.M. Customs to the Port Health Authority and later information is supplied directly from Aircraft Control in the airport.

Indian crews for merchant ships are frequently flown from India to join ships in the United Kingdom. In some cases these men arrive by air elsewhere, normally London, and proceed to Liverpool to join their ship: notification of this is always received from the Airport Medical Officer. On occasions, chartered aircraft bring the crews directly to Liverpool.

Such arrivals are kept under daily surveillance here until either the vessel sails or until the incubation periods for quarantinable diseases have expired.

SECTION VII

SMALLPOX

Cases of smallpox from the port area continue to be sent to New Ferry Isolation Hospital, though it is likely, in the near future, that new premises at Sankey, near Warrington, will be used. Under present arrangements a case of smallpox would be disembarked in the river by tender, and conveyed to Wallasey Cattle Stage, from which ambulance transport to the hospital is supplied by Liverpool City Ambulance Service. The Medical Officer of Health is responsible for the vaccinal state of the ambulance crews.

Smallpox consultants available are:—

Professor Andrew B. Semple, Health Department, Hatton Garden, Liverpool, 3.

Professor A. W. Downie, Department of Bacteriology, The University, Liverpool, 3.

Dr. E. R. Peirce, 8, Grosvenor, Road, Liverpool, 19.

Dr. A. B. Christie, Fazakerley Hospital, Longmoor Lane, Liverpool, 9.

Facilities for laboratory diagnosis of smallpox are available in the Liverpool University Bacteriological department.

No cases of smallpox or suspected smallpox occurred during the year.

SECTION VIII
VENEREAL DISEASE

Venereal infection aboard ships remains at a low level. All cases were referred for treatment to the Seamen's Dispensary.

Small cards, showing the location of treatment centres, with times of treatment, are issued, where appropriate, by the medical officers and health inspectors. The time-table of these treatment centres is shown below.

Venereal Diseases.—Time Table of Treatment Centres.

MONDAY				
Seamen's Dispensary	...	...	...	9.30 a.m. to 1 p.m. and 3 to 6.30 p.m.
Royal Infirmary	...	...	...	10.30 a.m. to 1 p.m. and 5.30 to 6.30 p.m.

TUESDAY				
Seamen's Dispensary	...	...	...	9.30 a.m. to 1 p.m. and 3 to 6.30 p.m.

WEDNESDAY				
Seamen's Dispensary	...	...	...	9.30 a.m. to 1 p.m. and 3 to 6.30 p.m.
Royal Infirmary	...	...	...	10.30 a.m. to 1 p.m. and 5.30 to 6.30 p.m.

THURSDAY				
Seamen's Dispensary	...	...	...	9.30 a.m. to 1 p.m. and 3 to 6.30 p.m.

FRIDAY				
Seamen's Dispensary	...	...	...	9.30 a.m. to 1 p.m. and 3 to 6.30 p.m.
Royal Infirmary	...	...	...	10.30 a.m. to 1 p.m. and 5 to 8 p.m.

SATURDAY				
Seamen's Dispensary	...	...	...	9.30 a.m. to 12 noon.
Royal Infirmary	...	...	...	By arrangement.

 CLINICS IN OTHER MERSEYSIDE AREAS.

Birkenhead General Hospital ... Monday and Friday ... 2 to 6.30 p.m.
 Wednesday only ... 10 a.m. to 12.30 p.m.

Bootle General Hospital ... Tuesday and Friday ... 6.30 to 8 p.m.

Wallasey, Mill Lane Clinic ... Monday ... 7 to 8 p.m.

SECTION IX

CASES OF NOTIFIABLE AND OTHER INFECTIOUS DISEASES IN SHIPS

No cases, or suspected cases, of cholera, plague, relapsing fever, smallpox typhus, or yellow fever occurred in the Port during 1960.

Poliomyelitis

At the end of 1959 a vessel approaching Liverpool signalled that a member of the crew appeared to be suffering from poliomyelitis. The man was removed at Holyhead and subsequently died in an isolation hospital at Caernarvon. Full details of this incident were given in the report for last year. The origin of the infection was obscure and it was decided to undertake thorough sampling of the ship's drinking water, to ascertain whether any living virus could be isolated. These samples were taken in the early part of 1960 and are accordingly discussed here.

Seven samples of drinking water were, in all, drawn, and sent to the public health laboratory service for investigation. In the laboratory, 40 ml. from each sample were pooled and 100 ml. of the mixture was filtered through a gradicol membrane with a pore diameter of 71 μ - μ . This membrane was then inoculated into tissue culture tubes. No cytopathogenic effects were observed after two passes totalling 16 days in tissue culture media consisting of transformed monkey kidney cells.

Nine samples of faeces, from close contacts, were taken at the same time and were similarly inoculated into a culture of transformed monkey kidney cells. No cytopathogenic effects were observed after three passes totalling 14 days.

Food-Poisoning

The vessel "Eibergen" arrived in the port from Oran in June. A message was received before docking that a member of the crew was suffering from a condition which suggested gastro-enteritis. The vessel was boarded on arrival by the assistant medical officer and a port health inspector and it was found that a number of the crew were suffering from gastro-enteritis. The deck boy, the subject of the original message, was removed to hospital.

Inspection of the catering facilities and of the medical condition of the crew was undertaken, and samples of food and water were submitted for bacteriological investigation. In addition rectal swabs were taken of all members of the crew. No food-poisoning organisms were isolated from the food or from the swabs of the crew but the samples of water were found to be unsatisfactory, having a high coliform count, and the drinking water tanks were accordingly heavily chlorinated, pumped out and refilled with clean water. The galley, pantry and storerooms were found to be in a very dirty condition and these were cleaned under the direction of the port health inspector. A second case occurred while the vessel was in dock: the symptoms of all cases suggested that the infection was probably staphylococcal, though no organisms were recovered.

Examination of the cook showed evidence of a recent carbuncle upon his abdomen and it is considered likely that this was the source of infection: he was appropriately treated and the master made arrangements for his replacement as cook.

The vessel sailed for Swansea four days later and the Medical Officer of Health for Swansea was informed.

Anthrax

Investigations into this disease continued during 1960: arrangements were made with a commercial firm operating in Nigeria for samples of fluid from hide washing baths to be sent to Liverpool, in order to observe whether the high rate of contamination in imported hides (see 1959 report) may be explained by contamination during a washing process which was designed, in fact, to clean the skin. These samples have been inoculated into guinea-pigs under arrangements made with the Director of the Public Health Laboratory Service and the results will be analysed and published in the forthcoming year.

Immunisation of the workers of the Government Wool Disinfecting Station continued during the year and two-thirds of the staff have now completed their course of immunisation against anthrax.

TABLE D

The number of cases of infectious disease landed from vessels arriving at Liverpool and those occurring in Liverpool-bound ships which were disposed of before arrival, are shown in the following tables:

CASES OF INFECTIOUS SICKNESS LANDED FROM VESSELS DURING 1960

Diseases	No. of Cases during Year		No. of Vessels concerned
	Passengers	Crew	
Quarantinable Diseases			
Cholera	—	—	—
Plague	—	—	—
Smallpox	—	—	—
Typhus Fever	—	—	—
Yellow Fever	—	—	—
Other Infectious Diseases			
Chickenpox	2	1	3
Diphtheria	—	—	—
Dysentery	4	1	2
Gastro-Enteritis	2	1	3
German Measles	—	1	1
Influenza	4	14	8
Malaria	—	5	5
Measles	1	—	1
Mumps	1	4	5
Pneumonia	1	8	9
Pyrexia	—	2	2
Scarlet Fever	—	3	2
Tuberculosis	2	6	8
Total	17	46	49

CASES OF INFECTIOUS SICKNESS OCCURRING IN VESSELS DURING THE VOYAGE
BUT DISPOSED OF PRIOR TO ARRIVAL. YEAR 1960

Diseases	No. of Cases during Year		No. of Vessels concerned
	Passengers	Crew	
Quarantinable Diseases			
Cholera... ..	—	—	—
Plague	—	—	—
Smallpox	—	—	—
Typhus Fever	—	—	—
Yellow Fever	—	—	—
Other Infectious Diseases			
Chickenpox	10	6	15
Diphtheria	—	1	1
Dysentery	—	2	2
Erysipelas	—	1	1
Gastro-Enteritis	—	5	1
German Measles	2	2	3
Infective Hepatitis	1	—	1
Influenza	4	17	6
Malaria	—	3	3
Measles	1	2	3
Mumps	6	1	6
Pneumonia	2	3	5
Pyrexia	—	1	1
Scarlet Fever	1	—	1
Tuberculosis	—	2	2
Typhoid Fever	—	2	2
Total	27	48	53

CASES LANDED FROM OTHER SHIPS (COASTWISE VESSELS)

Diseases	No. of Cases during Year		No. of Vessels concerned
	Passengers	Crew	
Tuberculosis	2	—	2
	2	—	2

SECTION X**OBSERVATIONS ON THE OCCURRENCE OF MALARIA IN SHIPS**

The use of malarial suppressants in ships entering the port from affected areas has continued to keep the incidence of this disease at a low figure. Eight cases of malaria or suspected malaria were reported from 8 ships in the year.

SECTION XI**MEASURES TAKEN AGAINST SHIPS INFECTED WITH OR SUSPECTED FOR PLAGUE**

There were no cases, or suspected cases, of plague in ships arriving in the port of Liverpool during 1960. Two suspected rats from quays were found, on bacteriological examination, to be negative for plague.

SECTION XII**MEASURES AGAINST RODENTS IN SHIPS FROM FOREIGN PORTS**

The port is divided into four districts. A port health inspector, a rat searcher, and a rat catcher are allotted to each district; the rat searcher is responsible for searching for evidence of rats, and the rat catcher for dealing with rat infestation. Each rodent operative is given specific tasks daily, to be carried out at set times, and the work is checked by cross visits.

Every foreign-going ship entering the port is visited by a port health inspector and a rat searcher as soon as possible after docking. Traps are set in all ships from infected ports, and in all foreign-going ships when rat evidence is reported where time in port permits.

In view of the reduced danger from plague, the only rats now sent for bacteriological investigation are a small number caught in ships from a plague port, or rats found dead near these ships.

Ratguards

All foreign-going ships, whether arriving from abroad, or proceeding coastwise, are visited on arrival by a port health inspector, and advised to fit ratguards on all moorings. Ratguards should be of sheet metal at least three feet in diameter, with sharp edged circumference, or the rope may be parcelled with canvas, or sacking coated with tar. This tar must be kept in a sticky condition. Ships' officers are also advised not to leave cargo nets hanging between the ship and shore at night.

Deratting

Deratting in ships is accomplished by:—

- (1) Routine trapping by port health rat catchers.
- (2) Trapping and/or poisoning by rat catchers employed by the shipping companies.
- (3) Fumigation with hydro-cyanic acid gas or sulphur dioxide. This method is alone approved for the issue of the International Deratting Certificate. Rodenticides are not approved for this purpose in the Port of Liverpool. The contractors undertaking this work are as follows:—

(a) Rat Catching.

Associated Fumigators (Northern) Ltd.

Disinfestation Ltd.

Hivey Fumigation Co.

Irlam Insecticides.

A. Sewell.

(b) Fumigators.

Associated Fumigators (Northern) Ltd.

Disinfestation Ltd.

Fumigation Services Ltd.

Hivey Fumigation Co.

Deratting in dock premises is accomplished by:—

(1) Routine trapping by port health rat catchers.

(2) Routine trapping and poisoning by rat catchers employed by the Mersey Docks and Harbour Board.

(3) Trapping and poisoning by private rat-catching firms employed by shipping companies and warehouse owners.

Examination of ships for rats

This is accomplished by:—

(1) Enquiries and search by port health inspectors.

(2) Routine searching by port health rat searchers, who search all foreign-going ships on arrival and also make periodic searches during the discharge of cargo. Any ship for which deratting or deratting exemption certificate has been applied for, is searched throughout when the cargo spaces are empty. 625 vessels were so examined in 1960. Immediate investigation is undertaken of reports from ships' masters and other officers, dock workers, and privately employed rat catchers.

Rat Proofing

When temporary or permanent rat harbourage is discovered in ships, the master and the owners (or agents) are informed and advised how to eliminate it: every effort is made to see that vessels are made reasonably ratproof before a deratting or deratting exemption certificate is issued. There have been considerable improvements in the ratproofing of ships, particularly in the newer transatlantic liners.

Regular surveys are made of all premises in the vicinity of ships, and no unnecessary accumulations of stores or gear are permitted.

TABLE E
RATS DESTROYED

Rodents Destroyed During the Year 1960 in Ships from Foreign Ports

Category	Number
Black Rats	571
Brown Rats	3
Species not known	—
Sent for examination	118
Infected with plague	—

**Rodents Destroyed During the Year 1960 in Docks, Quays,
Wharves and Warehouses**

Category	Number
Black Rats	710
Brown Rats	484
Species not known	—
Sent for examination	786
Infected with plague	—

Number of mice destroyed in vessels	329
Number of mice destroyed on quays	524
Number of mice examined from vessels and quays	526

In addition to the above, 2,633 rats and 46 mice were caught and destroyed by the Dock Board rat catcher and private agencies.

Number of Visits to Vessels by Rat Catchers	6,323
Number of Visits to Vessels by Rat Searchers	6,343
Number of Visits to Quays, Sheds, etc., by Inspectors	3,549
Number of Visits to Quays, Sheds, etc., by Rat Searchers	3,314
Number of Visits to Quays, Sheds, etc., by Rat Catchers	21,844

TABLE F

DERATTING CERTIFICATES ISSUED

**Deratting Certificates and Deratting Exemption Certificates Issued During
the Year 1960**

Number of Deratting Certificates issued after Fumigation with			After Trapping, Poisoning, etc.	Total	No. of Deratting Exemption Certificates issued	Total Certificates issued
H.C.N.	Sulphur	H.C.N. and Sulphur				
35	7	—	—	42	583	625

It has been suggested that the International Regulations, governing the deratting and inspection of ships, should be revised in view of the very low incidence of plague, reported throughout the world today. To assist in the assessment of this matter, an analysis was made of the results of the inspection of ships for rats from 1900 to the present day: this analysis was forwarded to the Ministry who originally raised the question of precautions against rat infestation in ships. There is little doubt that

the danger, when measured either by the incidence of plague or the number of rats in ships, has greatly diminished. It is necessary to decide to what extent this is due to the efficacy of the precautions already in force and careful consideration will have to be given to the effects of any change in the legislation.

SECTION XIII

INSPECTION OF SHIPS FOR NUISANCES

General

During the year careful attention has been paid to the inspection of ships for nuisances. In many ships, owners have given considerable consideration to the comfort of their crews, and an increasing number of ships provide single berth cabins, which are in general very well maintained and appreciated. Where nuisances were detected, the commonest were dirty and verminous quarters: cockroaches were the most frequent form of infestation. A supply of insecticide should be carried on board every ship for use during the voyage if required. Insecticidal resins are now in common use and in general have been found to be very effective.

The crew accommodation in foreign ships is almost always occupied when inspected. In British ships, however, although the quarters may be quite clean when the ship is at sea, they are sometimes found open, empty and in a dirty condition after they have been left unoccupied in port, following the paying off of the crew. Owners are accordingly advised, particularly if the accommodation has been cleaned and painted, to ensure that the cabin is locked until the new crew arrive in the ship.

Food Hygiene in Ships

A reasonably high standard of food hygiene was found in ships examined during the year though occasionally galleys, pantries and storerooms were found to be dirty or verminous. Certain provisions of the Food Hygiene (General) Regulations 1960 will become applicable to home-going ships or other craft undertaking catering or retail food business from the 1st November, 1961. A number of such ships operate from the port of Liverpool and preliminary surveys by port health inspectors have already commenced. Owners will be advised directly of all changes which will be required under these Regulations.

Table G

INSPECTIONS AND NOTICES

Year 1960

Nature and Number of Inspections					Notices Served		Result of Serving Notices
					Statutory	Other Notices	
Nature of Inspection							Nuisances Remedied
Dirty Crew Quarters	...	...	—	none	861	861	Remedied
Verminous Quarters	...	...	—	"	706	687	"
Dirty Washhouses or W.C.'s	...	...	—	"	106	106	"
Foul Water Tanks	...	...	—	"	—	—	"
Foul Bilges	...	...	—	"	—	—	"
Foul or Choked W.C.'s	...	...	—	"	10	10	"
Accumulations of offensive refuse	...	...	—	"	44	44	"
Gear stowed in Crews quarters	...	...	—	"	5	5	"
Damp Quarters	...	...	—	"	13	10	"
Leaky Deckheads	...	...	—	"	1	—	"
Defective Heating System	...	...	—	"	8	8	"
Defective Bulkheads...	...	...	—	"	—	—	"
Defective Portlights, Skylights, etc.	...	...	—	"	2	1	"
Defective or Inadequate Ventilation	...	...	—	"	3	—	"
Defective Deck Covering	...	...	—	"	—	—	"
Defective Lockers	...	...	—	"	—	—	"
Defective Chain or Hawse Pipes	...	...	—	"	—	—	"
Rat Harbourage	...	...	—	"	—	—	"
Defective W.C. Fittings	...	...	—	"	5	5	"
Defective Soil Pipes	...	...	—	"	—	—	"
Defective Waste Pipes or Scuppers	...	...	—	"	2	2	"
Defective Washing Facilities	...	...	—	"	2	1	"
Inadequate Lighting	...	...	—	"	—	—	"
Inadequate Drainage	...	...	—	"	—	—	"
W.C.'s discharging on Quay	...	...	—	"	69	69	"
Miscellaneous...	...	...	—	"	48	46	"
Number of Inspections 5,171							
Total 5,171					—	1,885	1,855

NATIONALITY OF SHIPS VISITED

Year 1960

Nationality							Visits	Re-Visits	Total
British ...	...	...	...	...	...	...	3,251	131	3,382
Dutch ...	...	...	...	...	...	...	362	1	363
German...	...	...	...	...	...	...	277	1	278
Norwegian	...	...	...	...	...	...	222	4	226
Swedish...	...	...	...	...	...	...	156	3	159
Spanish ...	...	...	...	...	...	...	130	4	134
Liberian	...	...	...	...	...	...	124	14	138
American	...	...	...	...	...	...	111	—	111
Danish ...	...	...	...	...	...	...	89	1	90
Greek ...	...	...	...	...	...	...	72	6	78
Russian ...	...	...	...	...	...	...	70	2	72
Japanese	...	...	...	...	...	...	42	2	44
Polish ...	...	...	...	...	...	...	30	—	30
Italian ...	...	...	...	...	...	...	29	3	32
Finnish	...	...	...	...	...	...	28	—	28
Israeli ...	...	...	...	...	...	...	24	—	24
Belgian ...	...	...	...	...	...	...	22	—	22
Panamanian	...	...	...	...	...	...	20	—	20
Yugoslavian	...	...	...	...	...	...	19	—	19
Argentinian	...	...	...	...	...	...	14	—	14
Bulgarian	...	...	...	...	...	...	14	—	14
Turkish	...	...	...	...	...	...	14	—	14
French ...	...	...	...	...	...	...	11	—	11
Egyptian	...	...	...	...	...	...	10	—	10
Lebanese	...	...	...	...	...	...	9	—	9
Chilian ...	...	...	...	...	...	...	8	—	8
Swiss ...	...	...	...	...	...	...	3	—	3
Chinese...	...	...	...	...	...	...	2	—	2
Costa Rican	...	...	...	...	...	...	2	—	2
Icelandic	...	...	...	...	...	...	2	—	2
Portuguese	...	...	...	...	...	...	2	—	2
Honduras	...	...	...	...	...	...	1	1	2
Nicaraguan	...	...	...	...	...	...	1	—	1
Totals	...	...	...	...	...	...	5,171	173	5,344

INSPECTION OF DOCK PREMISES

Routine inspection of dock premises was maintained during the year and the following defects and nuisances were observed and remedied.

Description of Premises	Defective or Inadequate					Structural Defects	Rat Harbourage	Rat Infestation	Accumulated Refuse	Noxious Effluvia	Dirty Conditions	Verminous Concitions	Damp Conditions	Water Supply	Miscellaneous
	Lighting	Heating	Ventilation	W.C. Accommodation	Drainage										
Dock Sheds	—	—	—	—	—	—	27	1	55	—	4	1	—	—	1
Canteens ...	1	—	4	—	7	12	15	9	3	—	23	1	2	2	136
Factories ...	—	—	—	—	—	—	1	—	—	—	—	—	—	—	—
Quays ...	—	—	—	—	—	—	4	1	120	—	1	—	—	—	—
Roadways ...	—	—	—	—	—	—	1	—	281	—	2	1	—	—	—
Railway Premises ...	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Warehouses	—	—	—	—	—	—	2	1	—	—	—	—	—	—	—
Mills ...	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Latrines ...	—	—	—	—	2	1	—	—	—	—	7	—	—	1	—
Lairages ...	—	—	—	—	—	—	—	1	—	—	—	—	—	—	—
Offices ...	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Airport Premises ...	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total ...	1	—	4	—	9	13	50	13	459	—	37	3	2	3	137

Dock Sheds

The Food Hygiene (Docks, Carriers, etc.) Regulations, 1960, now govern structure and conditions in sheds where open foodstuffs are likely to be handled. These Regulations modify the provisions of the Food Hygiene (General) Regulations, 1960, in relation to the special conditions found on docks, quays, in public warehouses, and cold stores, where food is required to be handled in such a way that contamination is unlikely. Commodities particularly accessible to contamination must be kept from contact with the clothing of dock workers unless such clothing is protective in nature.

In general, no particular berths are reserved in the port of Liverpool for the discharge of foodstuffs, and it has accordingly been necessary to undertake a complete survey of sheds in relation to the provisions of this enactment. This survey was undertaken by the deputy chief port health inspector and the results are summarised below. In all, 127 separate dock sheds were inspected and their condition was classified according to the owners, the general structure of the building, including the type of flooring, the type of open food likely to be handled, washing facilities, nature of unloading equipment in use, and protective clothing, if any, available for workers.

Briefly, the findings of this survey may be summarised as follows: of the 127 sheds inspected 76 were appropriated to particular users, and 51 are available for general hire; 47 appeared, on preliminary examination, to be suitable for handling food: in 84 sheds open food is handled and in 43 sheds open food is generally not handled: 53 sheds have washing facilities (3 soap and water and 50 waterless): in 11 berths metal or plastic covered equipment is used, and in 116 berths foodstuffs are moved by rope and canvas slings: in three berths only is protective clothing provided.

The results of this survey will be analysed and it is proposed to prepare a summary of the requirements under the new Act and circulate the firms concerned individually with this information. Later visits from port health inspectors will ensure that the regulations are observed.

NUISANCE FROM MANURE

Vessels which have discharged cattle at Wallasey frequently berth at a quay in the North docks, where the cattle spaces are cleaned and manure is transferred to trucks on the quayside. Until recently, this manure has been sold by private tender to firms in the district and there has, therefore, been no difficulty in disposing of it from the quay. Recently, however, it has been found increasingly difficult to sell this material, and the question of disposal created great difficulties for the shipping company concerned. Eventually it was arranged that the manure would be accepted at Sefton Meadows tip, and the shipping company made arrangements with a private firm for the transfer of the material there. It is not possible to avoid a short delay between the accumulation of the manure

from the ship and its transfer to Sefton Meadows: during this period the manure is stored in small trucks which are, when used, covered by a canvas top, and which are regularly lime-washed.

WATERLESS HAND CLEANERS

This development which was mentioned in the report for 1959, consists of an upright trolley incorporating a renewable dispensing tank from which, on pressing a plunger, a quantity of antiseptic hand-cleansing detergent and bland oils is pumped into the hand of the user. A supply of disposable paper towels is provided in the same apparatus. This device permits dock workers to attain a reasonable standard of cleanliness both before taking a meal and before handling food or other special cargo. At the end of 1959, 22 machines were in general use throughout the dock estate: the advantage of these machines is their portability, which permits them to be moved easily from one berth to another. The use of such machines increased in 1960 and, at the end of the year, there were 50 in use. It has been decided that the use of these machines is acceptable as a method of hand washing under the Food Hygiene (Docks, Carriers, etc.) Regulations 1960.

SECTION XIV

PUBLIC HEALTH (SHELLFISH) REGULATIONS, 1934/48

The Public Health (Shellfish) Regulations 1934/48 authorise local authorities to issue Orders controlling the disposal of shellfish which have been collected from polluted areas. Such an Order was made by the Liverpool Corporation in 1951, and this order stated that shellfish might not be collected for sale from within the limits of the port of Liverpool, unless before disposal they were either cleansed at an establishment approved by the Ministry, or subject to a process of sterilisation at premises and in apparatus approved by the Liverpool Port Health Authority.

There are no premises, regularly receiving shellfish from within the limits of the port of Liverpool, which have been approved directly by the Ministry: a premises and apparatus, however, in the Hoylake area, has, following inspection, received such approval and quantities of shellfish collected within the limits of the port are regularly taken there for

cleansing and later sale. During the year observation was maintained by port health inspectors upon certain parts of the Wirral foreshore within the limits of the port of Liverpool. It became apparent that a quantity of shellfish had been dispatched to a firm in Lancashire, which had not received the authority required under the Order mentioned above. The operator concerned was visited by representatives of the Authority, and he was informed of the type of apparatus which was necessary before approval under the Order would be given: it is necessary for such an apparatus to be capable of exposing a shellfish to steam pressure. Later, the firm concerned obtained a steam pressure apparatus and requested permission to accept shellfish under the terms of the Order. The apparatus was inspected and samples were taken of the shellfish before and after the cleansing process. Both the apparatus and the bacteriological findings were satisfactory and the operator was accordingly informed that his premises received approval under the Order.

A second preliminary application for recognition under the Order was received from a firm in the Hoylake area, but, as suitable apparatus has not yet been installed, formal inspection has been withheld.

Over the year, 22 warning notices, stating the provisions of the Public Health (Shellfish) Regulations and the Order made under them have been erected at suitable sites, and renewals have been undertaken where necessary.

No prosecutions were instituted during the year.

CLEAN AIR ACT, 1956

and

DARK SMOKE (PERMITTED PERIODS) (VESSELS) REGULATIONS, 1959

Smoke nuisances from ships in the port of Liverpool have steadily decreased. Port health inspectors kept constant observation for serious smoke nuisances occurring in vessels using the port and their efforts have undoubtedly contributed to this improvement. The continuing change from coal to oil, as a method of propulsion, has also led to a reduction in smoke nuisance.

DOCK CANTEENS

General

A detailed examination has been made of the conditions in canteens which are operated within the dock estate, and the medical officer of health has personally visited certain of these canteens. In relation to the inevitable hard usage which such canteens receive it is considered that their condition is, in general, satisfactory, and certain structural alterations which appear to be desirable are the subject of discussion between the Authority and the Mersey Docks and Harbour Board. There are 56 canteens in the port health area which are distributed as follows:—

Liverpool	...	...	...	29
Bootle	...	...	...	14
Birkenhead...	...	...	...	7
Crosby	...	...	...	3
Wallasey	...	...	...	3

The construction of these canteens is of various types as follows:

Modern brick	...	...	...	17
Wood and brick	...	...	...	4
Nissen	...	...	...	14
Wooden	...	...	...	19
Corrugated Iron	...	...	...	2

The control of the canteens is as follows: 26 are owned and let by M.D.H.B., 19 are privately owned, upon land leased by M.D.H.B., 8 are "private"; these are used by employees of particular firms. Three are upon land owned by the British Transport Commission at Garston Docks: the premises of two of these are privately owned, and in the third instance, the B.T.C. own the premises but lease them to a private operator.

Over 20 different firms are concerned in the day-to-day management of these canteens.

Inspection

The port health staff is responsible for the inspection of these canteens under the various enactments which determine standards of hygiene, conditions, etc. Approximately 1,600 separate inspections are undertaken annually and each canteen is visited approximately once every two weeks.

Defects noted by the inspector on the district concerned are recorded in the Canteen Inspection Register. Wherever possible the district

inspectors ensure that any defects are remedied: where necessary the matter is referred to the Deputy Chief Port Health Inspector who has, among other duties, the particular responsibility of dealing with serious defects found in canteens. Any further action necessary is taken by the Chief Port Health Inspector and the Medical Officers.

REFUSE IN DOCK ESTATE

Approximately 8,000 tons of refuse are produced annually from the dock estate of which 5,000 tons are combustible, 2,000 incombustible, and 1,000 tons putrescible. Hitherto the 5,000 tons of combustible material and the 1,000 tons of putrescible material have been incinerated at a plant owned by the Mersey Docks & Harbour Board, while the 2,000 tons of incombustible material have been tipped upon land owned by Mersey Docks & Harbour Board at Seaforth or Dingle.

The provisions of the Clean Air Act would require extremely extensive modification of the incinerating plant at present used by the Board, and the tips both at Dingle and Seaforth are nearing the limits of their capacity.

Previously dumping refuse at sea has been attempted, but it was found impossible to prevent the return of much of this material to adjacent beaches with the flood tide.

Because of these considerations Mersey Docks & Harbour Board have approached Liverpool Corporation for additional facilities at the municipal tips, and it is hoped that this will result in a solution to the problem of refuse on the dock estate, which clearly has wide public health implications.

DIESEL EXHAUST POLLUTION

Complaints have been received from dock workers concerning air pollution from the exhausts of diesel cranes operating on the dock estate, and particularly within sheds. This is properly a matter for the Factories Inspectorate but, in view of its significance in relation to public health, the matter was investigated by the Chief Port Health Inspector in association with H.M. Inspector of Factories for this area. This is clearly a difficult matter to control as such cranes are in constant use in relatively confined spaces, and atmospheric conditions occasionally delay the dispersion of the fumes. The difficulties were discussed with the firms operating the cranes and the appropriate recommendations were made.

YELLOW FEVER INOCULATIONS

The Liverpool Health Department in Hatton Garden has this year been approved a Yellow Fever Inoculation Centre. In general, inoculations of seafarers are undertaken by the medical officers of the City staff at this Centre but it occasionally happens that a complete ship's crew has to be protected against yellow fever at extremely short notice: this can happen when, for example, the destination of a ship is changed unexpectedly. Under these circumstances inoculations have been carried out in the ship by the Port Health staff, the doctor visiting the ship after a port health inspector has made the necessary preliminary arrangements aboard. This method has worked very well and it has been found that inoculations, conducted under these conditions, can be completed very speedily.

SURVEILLANCE

From time to time coloured crews are flown from infected areas to the U.K., in order to assume duties upon ships in Liverpool. Normally such men land by air in London and the information, with details of the ship concerned, is notified to this Authority by the medical officer for London Airport. These men are usually accommodated temporarily in a lodging house within the City of Liverpool, and their surveillance, on this occasion, is undertaken by the Chief Public Health Inspector. When they leave the lodging house for the ship or when they proceed directly to the ship surveillance is maintained by inspectors of the Port Health Authority.

EMERGENCY MEDICAL TREATMENT

During the year medical officers of the Port Health Authority provided emergency medical treatment on several occasions, the arrangements covering both ships and other incidents within the dock estate.

TRANMERE OIL TERMINAL

The opening of this new oil terminal in the River Mersey on the 8th August, 1960, has led to an increase in the responsibility of the port health inspecting staff. Ocean-going tankers, of the largest class, can be accommodated, without docking, at the floating stages and the pumping out operation, through a 12 mile pipe line to an adjacent refinery, is carried out at a discharge rate of 6,000 tons of oil per hour at each of the two stages: thus a total of 12,000 tons of oil per hour can be discharged.

SECTION XV

MEDICAL INSPECTION OF ALIENS

Medical Officers holding Warrants of Appointment as medical inspectors of aliens are :

Professor Andrew B. Semple,
 Dr. J. B. Meredith Davies,
 Dr. T. L. Hobday,
 Dr. A. J. Graham,
 Dr. A. Griffith,
 Dr. D. E. Phillips.

No other staff are regularly engaged on this work, though the medical officers may be assisted by health visitors from the City staff when necessary. Normally, immigration officers refer to the medical officers any passengers whom they have reason to believe may require examination under the Aliens Order; a medical officer is therefore always present during the disembarkation of passengers from transatlantic liners. The medical officer may, of course examine, independently, any passenger he wishes.

The following table gives the total number of aliens arriving in the Port of Liverpool during 1960 and the number of each of the categories under which alien passengers are classified by the Immigration Department of the Home Office: —

Visitors	Business Visitors	Others	Total
6,279	80	1,644	8,003

Total number of vessels carrying Alien passengers ...	...	...	942
Number of vessels dealt with by the Medical Inspector ...	...	...	166
Number of aircraft dealt with by the Medical Inspector ...	...	...	28
Total number of aliens landed in the Port ...	...	...	7,971
Number subjected to detailed examination by Medical Inspectors...	...	...	682
Certificates issued by Medical Inspectors ...	...	...	4

Medical inspections of alien passengers are normally conducted either in the ship itself, or, in relation to aircraft, in the examination room at Liverpool Airport.

SECTION XVI

MISCELLANEOUS

If notice is received that a death has occurred aboard a ship, following a quarantinable infectious disease, the Medical Officer informs H.M. Customs and the Ministry of Transport. The body is isolated aboard the ship until suitable arrangements have been made for removal direct to the cemetery: wherever possible the relatives are strongly urged to agree to cremation.

Disinfection is carried out in all cases by the Port Health staff.

ASSOCIATION OF SEA AND AIR PORT HEALTH AUTHORITIES— ANNUAL CONFERENCE

The Medical Officer of Health attended this conference and read a paper entitled "Recent Problems of Imported Food". This paper surveyed some of the major problems which had recently arisen in this field which had particular reference to bacterial contamination of egg products and desiccated coconut. The question of exchange of information between seaports was reviewed, and suggestions were made for a more regular scheme of inter-communication. A specimen proforma upon which details of undesirable cargoes could be circulated to other ports was displayed and this form is now in regular use by the Port Health Authority in Liverpool.

PUBLIC HEALTH INSPECTORS ASSOCIATION— ANNUAL CONFERENCE

This was attended by Mr. J. G. McCoy, the Chief Port Health Inspector. Papers on technical subjects were read, and Mr. McCoy took part in discussions on pest control, international quarantine, and developments in fumigation techniques.

FOOD INSPECTION

DESICCATED COCONUT

It was learned at the end of 1959 that the Public Health Laboratory Service in London had detected contamination by salmonellae in desiccated coconut imported from Ceylon. Sampling of this commodity was therefore commenced in January, 1960. It was decided that sampling during January should be for information only, in order to provide the Medical

Officer with an assessment of the degree of contamination likely to be present, and the organisms concerned. The results obtained showed that contamination was quite common and that a variety of salmonellae was present. Accordingly, from February, it was decided to sample all imports of desiccated coconut on a systematic basis, and to detain such consignments until results of sampling showed them to be satisfactory.

Quantities

Between February (when systematic sampling commenced) and the end of the year 76 ships brought a total of 1,904 consignments, consisting of 130,757 separate packages, of which 97,126 were bags and 33,631 were cases. The standard weight of a bag is 100-lbs. and the standard weight of a case is 130-lbs. This represents a total of 6,288 tons of coconut imported during the year. Desiccated coconut is graded as either fine or medium, and either of these varieties may be found in either type of package. Very occasionally a package of superfine, or coarse (known to the trade as chips) is imported.

As the results detailed below will show, there appears to be no significant difference between the contamination when results are considered either by type of package or by variety of coconut.

Sampling Technique

When, some years ago, large-scale importations of egg products were sampled in Liverpool, it was found that, where large consignments could be divided by code numbers into sub-consignments, sampling could be undertaken on a rational basis, as each code mark represented the individual daily output of a particular factory overseas. Unfortunately, it has not been possible to obtain this information in relation to importations of desiccated coconut, and it was therefore necessary to consider all the packages appearing on a single customs entry as representing one sampling unit only. The difficulties caused by mixing, in the same consignment, packages representing different mills has frequently been indicated to the trade, but, even at the end of 1960, no satisfactory solution had been reached.

It was therefore decided, from February onwards, to sample 5 per cent of packages in each consignment. If no salmonellae were detected, the consignment was released. If, however, a positive result was found on

the 5 per cent sampling, 10 per cent sampling was undertaken. In March this system was modified and it was decided not to take into account any salmonellae except *Salmonellae typhimurium*, *paratyphi-B*, and *thompson*: the scheme of 5 per cent and 10 per cent sampling remained unchanged. The three salmonellae mentioned were termed, informally, the "designated" salmonellae and will be so termed in the remainder of this report. (For 1961 this "designated" list has been extended to include five other established pathogens.)

Sampling Results

In all 8,265 samples were taken, 64 of which showed "designated" salmonellae and 415 of which showed other salmonellae. In all 41 different salmonella sero-types were identified and the total list of these, with the frequency of their appearance is as follows:

<i>Salmonella paratyphi-B</i> (42)	} "designated types"	<i>Salmonella muenster</i> (7)
<i>Salmonella typhimurium</i> (18)		<i>Salmonella nchanga</i> (10)
<i>Salmonella thompson</i> (4)		<i>Salmonella newport</i> (7)
		<i>Salmonella new type</i> (4)
<i>Salmonella angoda</i> (16)		<i>Salmonella onderspoort</i> (2)
<i>Salmonella aqua</i> (3)		<i>Salmonella os'lo</i> (4)
<i>Salmonella barielly</i> (39)		<i>Salmonella perth</i> (43)
<i>Salmonella butanta</i> (3)		<i>Salmonella poona</i> (1)
<i>Salmonella charity</i> (1)		<i>Salmonella rubislaw</i> (2)
<i>Salmonella chester</i> (5)		<i>Salmonella san juan</i> (2)
<i>Salmonella chittagong</i> (2)		<i>Salmonella senftenberg</i> (25)
<i>Salmonella cubana</i> (1)		<i>Salmonella shangani</i> (15)
<i>Salmonella ferlac</i> (49)		<i>Salmonella simsbury</i> (1)
<i>Salmonella hvittingfoss</i> (37)		<i>Salmonella solna</i> (3)
<i>Salmonella infantis</i> (1)		<i>Salmonella stanley</i> (4)
<i>Salmonella javiana</i> (2)		<i>Salmonella takoradi</i> (1)
<i>Salmonella kotte</i> (30)		<i>Salmonella treforest</i> (1)
<i>Salmonella lanka</i> (2)		<i>Salmonella virchow</i> (1)
<i>Salmonella litchfield</i> (10)		<i>Salmonella waycross</i> (84)
<i>Salmonella matopeni</i> (4)		<i>Salmonella welikada</i> (2)
<i>Salmonella mount pleasant</i> (2)		<i>Salmonella wetreden</i> (1)

Certain phage types of *S. paratyphi-B*, and *S. typhimurium* were recognised during laboratory investigation and these are listed below. No phage type reports were received of *S. thompson*.

SALMONELLA PARATYPHI-B

Phage type Beccles	7
Phage type Beccles Variant 4 ...	1
Phage type Dundee	7
Phage type Dundee Variant 1 ...	2
Phage type Jersey	1
Phage type Odense	4
Phage type Scarborough	5
Phage type Untypable	4
Phage type I	2
Phage type I Variant 9	3
Phage type I Variant 10	3
Phage type 3b	2
Phage type 3b Variant 10	1
Total	42

SALMONELLA TYPHIMURIUM

Phage type I	9
Phage type Ib	2
Phage type 4a	2
Phage type B	1
Phage type U90	1
Phage type Untypable	3
Total	18

Analyses of these results show that there is a total level of infection amongst all samples taken, and including all salmonellae, of 5.86 per cent. 0.82 per cent of all samples taken are infected with a "designated" salmonella: and 5.08 per cent are infected with a "non-designated" salmonella.

It has already been noted that there are two varieties of desiccated coconut and two forms of packing and it was thought a relationship might exist between those factors and the degree of contamination. The exact sampling results by variety and packing have been analysed and are as follows:

76,004 bags of the fine grade were landed in Liverpool and from these 4,720 samples were taken. "Designated" salmonellae were found in 51 and non-designated salmonellae in 265 (6.69 per cent infected). 24,927 cases had 1,504 samples drawn and "designated" salmonellae were found in 4 and non-designated in 61 (4.32 per cent infected).

The medium grade coconut was investigated in the same way. 21,122 bags were landed and 1,449 samples were drawn, 4 of which showed "designated" salmonellae and 42 of which showed non-designated salmonellae: a percentage of 5.02 infected. The number of cases landed amounted to 8,704 from which 592 samples were drawn 5 of which were

infected with "designated" salmonellae and 27 with non-designated salmonellae giving a 5.41 per cent infection rate. Thus there is no evidence that either the variety of coconut or the method of packing is related to the degree of contamination.

The Limitations of Laboratory Sampling

Although there is no doubt that when salmonellae are present in samples, they are detected by the laboratory, it is quite clear that the small sample does not necessarily represent the state of coconut in the whole package. Present sampling techniques would be reliable only if contamination were homogeneously distributed throughout each package. It must be remembered that a 2-oz. sample represents little more than 1/1,000 of a whole package. To investigate this a bag of desiccated coconut, known by previous sampling to be infected with *Salmonella paratyphi-B* and due for destruction, was taken to the Port Health Office and further samples from the same bag submitted to the laboratory. So far 50 samples have been submitted from this bag: all results have now been received and none show the presence of any salmonellae. We thus have the position that of 51 samples from the same bag only one is positive and 50 are negative. It could, on this evidence, be said that the present system is capable of identifying only 1 in 51 of infected bags: or, alternatively, that over 98 per cent of infected bags could escape detection. As the bag sampled represents, in turn, only 5 per cent of those imported, then the value of samples in this matter is still further reduced. These results strongly suggest that areas of contamination may be well separated in the same package and it is therefore unjustified to clear a package on the evidence of one or even several samples. It is clear that there is no ready solution to this problem as an unlimited number of samples cannot, of course, be taken from each package, even if the laboratory could deal with such large numbers.

Experimental Decontamination

When packages of coconut are rejected following the discovery of contamination the importer may, of course, make proposals for the disposal of this material. Hitherto, infected coconut has been either re-exported, sold for oil expression or forwarded to a firm in the London area in whose premises the infected material is sterilised under arrangements

made by the local Medical Officer: it is then available for sale as an ingredient in human foodstuffs. When re-export is proposed the coconut is released only when the address of the overseas firm receiving the material is disclosed, and the appropriate health authorities, abroad, are notified of the proposed transfer and of the infection already found in Liverpool. Such re-exports have, up to the present, concerned only Holland. When it is proposed to dispose of infected material for oil expression, this is only permitted when the approval of the appropriate Medical Officer has been obtained: approval is never given for direct use of infected coconut for animal food unless some process of sterilisation occurs.

Various methods of sterilisation have been discussed in trade circles and in some instances packages, known to be infected, have been released to the trade for experimental purposes. Amongst the methods of sterilisation which have been proposed are wet steam, dry heat, ethylene oxide, ultra-sonic impulses, ultra-violet light, and irradiation. None of these processes have, so far, appeared to be commercially attractive apart, perhaps, from the dry heat process which is available in the premises of the firm, already mentioned, in the London area.

The considerations set out above suggest that it is unlikely that any whole package escapes contamination at source. The desiccated coconut trade have, naturally, been extremely disturbed both by the discovery of contamination and by the consequences of the numerous rejections which follow such discoveries. Representatives of this trade have visited Ceylon and assessed the conditions of manufacture there. It is clear, from the frank reports which they have made, that there are many opportunities for contamination of the nut between the tree, collection, processing and packing. There is no doubt that the efforts of the trade to improve conditions have been vigorous, but a review of sample results in relation to different months has shown no maintained improvement: it is probable that the general instability of administration in Ceylon has made the necessary re-organisation very difficult. As a pilot experiment a small number of mills have been completely inspected and conditions of manufacture re-organised to conform with reasonable hygienic principles. The desiccated coconut trade said that this re-organisation will be continued to include all mills, and it is hoped that the services of public health

departments in Ceylon will assist in the examination of workers. Thus it may be hoped that a cleaner product will eventually be produced. There is little doubt, however, that, at the moment, such large-scale importations of pathogenic organisms in foodstuffs cannot be tolerated by port health authorities. Accordingly, although the system of sampling as summarised above remained in force during 1960, it is proposed to institute a more critical scheme for 1961. If the efforts of the coconut trade to secure a cleaner product are successful little harm will be done to the industry, otherwise the future of these imports appears to be doubtful.

SUMMARY

Ships	...	...	...	...	...	76
Consignments	...	...	...	...	...	1,904
Packages	...	...	...	...	...	130,757
Cases (fine)	...	...	...	...	...	24,927
Cases (medium)	...	...	...	...	...	8,704
Bags (fine)	...	...	...	...	...	76,004
Bags (medium)	...	...	...	...	...	21,122
Total weight 14, 084,630 lbs. (6,288 tons)						
Number of samples taken	...	...	...	...	...	8,265
Number of samples showing infection with "designated" salmonellae	...	...	...	...	...	64
Number of samples showing infection with "non-designated" salmonellae	...	...	...	...	...	415
Number of samples showing infection with any salmonellae	...	...	...	...	...	479
Percentage of samples showing infection with "designated" salmonellae	...	...	...	...	...	0.77%
Percentage of samples showing infection with "non-designated" salmonellae	...	...	...	...	...	5.02%
Percentage of samples showing infection with any salmonellae	...	...	...	...	...	5.79%
Total number of salmonella serotypes identified	...	...	...	...	...	41

(for relative frequencies of each see text).

MEAT AND MEAT PRODUCTS

The following pages attempt to give an account of all individual consignments of meat and meat products, landed during 1960 in Liverpool, which may be considered of public health significance.

Imports from each country are considered separately. The items reported upon below represent, in general, only a very small fraction of the total consignments handled during the year, the balance of which has been found to be completely satisfactory.

Meat from New Zealand

A consignment of 1,002 carcasses of wether mutton was discharged from the vessel "Tongariro", in Liverpool on the 21st April. Preliminary examination on the quay showed that 7.6 per cent of the carcasses were affected with caseous lymphadenitis. A full examination in the cold store which was completed on the 28th April, 1960, showed a total of 69 carcasses to be so affected: this represents 6.8 per cent of the consignment. The rejected mutton totalled 1,020 lbs. The official certificates which were attached to the carcasses showed that they originated in an establishment having the registered number M.E.10.

A consignment of 514 carcasses of ewe mutton was discharged from the vessel "Haparangi" in Liverpool on the 13th June. Preliminary examination on the quay showed over 7 per cent of the carcasses to be affected with caseous lymphadenitis. A full examination in the cold store showed a total of 13 carcasses to be so affected: this represents 2.5 per cent of the consignment. The rejected mutton totalled 117 lbs.

A consignment of 400 carcasses of mutton was discharged from the vessel "Hurunui" in Liverpool in July. Following preliminary examination the consignment was detained for a 100 per cent examination which was completed on the 12th August. This showed 11 carcasses in all to be affected with caseous lymphadenitis: this represents 2.75 per cent of the consignment. The rejected meat totalled 84 lbs.

A consignment of 907 carcasses of mutton was discharged from the vessel "Waiwera" in Liverpool in July. Following a preliminary examination the consignment was detained for a 100 per cent examination which was completed on the 20th July. This showed 29 carcasses in all to be affected with caseous lymphadenitis: this represents 3.1 per cent of the consignment. The rejected meat totalled 384 lbs.

A consignment of 750 carcasses of mutton was discharged from the vessel "Durham" in Liverpool in July. Following a preliminary examination the consignment was detained for a 100 per cent examination which was completed on the 26th July. This showed 35 carcasses in all to be affected with caseous lymphadenitis: this represents 4.6 per cent of the consignment. The rejected meat totalled 438 lbs.

A consignment of 1,000 carcasses of ewe mutton was discharged from the vessel "Port Vindex" in Liverpool in November. Following a preliminary examination the consignment was detained for a 100 per cent examination, which has not yet been completed. Hitherto 430 carcasses have been examined of which 32 carcasses are affected with caseous lymphadenitis: this represents 7.4 per cent of those examined. The rejected meat, so far, totals 320 lbs.

A consignment of 382 cartons of boneless mutton was discharged from the vessel "Sydney Star" in Liverpool in November. Following a preliminary examination the consignment was detained for a 100 per cent examination which was completed on the 30th November. A large proportion of the meat contained in the cartons was scrap meat which it was not possible to identify with a particular part of the carcass. The pleura and peritoneum and many of the lymphatic glands had been removed during the boning-out process. The meat was thus "prohibited meat" as defined in the Public Health (Imported Food) Regulations 1937 (1st schedule). The whole consignment, totalling 22,920 lbs., was rejected.

Meat and Canned Meat from Australia

A consignment of 500 cartons, each containing 6 x 7-lb. tins of stewed steak was discharged from the vessel "Clan Stewart" in Liverpool in January. Full examination was undertaken later in January: this revealed that 678 x 7-lb. tins showed signs of blowing. A quantity of blown tins was submitted for bacteriological examination and it was found that Gramme-positive anaerobic organisms were present and putrefactive changes had occurred. The cartons concerned were accordingly rejected.

A consignment of 31 cartons of boneless brisket beef (point ends) was discharged from the vessel "Ionic" in Liverpool in January. Following defrosting and a 5 per cent examination in the cold store the consignment was detained for a 100 per cent examination which was completed on the 27th January. This showed 4.6 per cent of the consignment to be affected with onchocerciasis. The meat rejected totalled 19 lbs.

A consignment of 318 cartons of boneless beef (described as crops but actually complete forequarters) was discharged from the vessel "Port Lyttleton" in Liverpool in March. A forequarter consists of both crop and brisket. Owing to the danger of onchocerciasis in Australian

briskets, these are routinely detained for defrosting and examination after landing and, if, therefore, a crop is attached to the brisket, then delay to the crop itself becomes inevitable. Furthermore the attachment of the brisket to the crop means that a far bulkier item has to be put into cold stores and also labour has to be provided to separate the two parts. This difficulty is normally avoided by the division of the forequarters into brisket and crop before the meat leaves Australia. In only two instances (the one under review and the next item) was the division of the forequarter not already undertaken before arrival in Liverpool, and in both these instances there were consequent delays to the release of the meat. The circumstances were reported both to the importer and to the Commonwealth Veterinary Officer in London. Since then there have been no further difficulties of this nature. The official certificate stamped on the cartons showed that their contents were the produce of Victoria.

A consignment of 125 cartons of boneless beef (described as crops) was discharged from the vessel "Port Melbourne" in Liverpool in May. Three cartons, which were examined on the quay, appeared to be complete forequarters. The consignment was therefore detained for sampling by defrosting and examination in the cold store. Seven cartons examined at the cold store confirmed this. The briskets were removed from these forequarters and, after sectioning, were examined for onchocerciasis nodules, but none were found and the consignment was released. Again, delay to the crops was inevitable as they were imported still attached to the briskets. The official certificate stamped on the cartons again showed that their contents were the produce of Victoria.

A consignment of 545 carcasses of wether mutton was discharged from the vessel "Dorset" in Liverpool on the 16th June. Preliminary examination on the quay showed over 5 per cent of the carcasses to be affected with caseous lymphadenitis. The consignment was then detained in the cold store for a 100 per cent examination which was completed on the 22nd June. This showed 14 carcasses in all to be affected with caseous lymphadenitis: this represents 2.5 per cent of the consignment. The examining inspector reported that over 50 per cent of the carcasses composing the consignment showed evidence of the removal of one or more lymph glands which are normally incised and examined. The rejected meat totalled 166 lbs.

A consignment of 1,500 cartons (6 x 7-lb. tins per carton) of canned stewed steak was discharged from the vessel "Kildare" in Liverpool in September. Preliminary examination on the quay showed that a percentage of the tins were blown and burst. The consignment was then detained in the warehouse for a 100 per cent examination which was completed on the 21st September. This showed 223 x 7-lb. tins in all to be blown or burst: this represented 2.5 per cent of the consignment.

A consignment of 271 carcasses of wether mutton was discharged from the vessel "Port Sydney" in Liverpool in November. Following preliminary examination on the quay the consignment was detained for a 100 per cent examination which was completed on the 30th November. This showed 10 carcasses to be affected with caseous lymphadenitis: this represented 3.6 per cent of the consignment. The rejected meat totalled 79 lbs.

A vessel arrived from Australia in October with a large consignment of frozen meat. A breakdown had occurred in the refrigeration system of the ship and it was, accordingly, necessary for a full examination to be undertaken of the meat in the hold which had been affected by the incident. The full contents of this hold comprised:—

1,086 hindquarters of beef;

1,292 crops of beef;

1,153 cartons of boneless beef crops.

442 complete hindquarters were rejected and, in addition, certain trimmings from other hindquarters were also rejected, totalling 4,866 lbs. 1,125 crops were rejected and trimmings from other crops, totalling 273 lbs., were also rejected. Examination of the cartons showed the contents of 324 to be damaged and these were also rejected. 169 hindquarters and 120 crops were, under arrangements made with the Medical Officer of Health for London, forwarded, unexamined, to Smithfield for sorting and disposal there.

Meat and Lard from U.S.A.

A consignment of 66 cartons of beef kidneys was discharged from the vessel "Mahronda" in Liverpool in July. Preliminary examination on the quay showed a percentage of the kidneys to be decomposing. The consignment was then detained in a cold store for a 100 per cent examination which was completed on the 1st July. This showed 453 kidneys (514 lbs.) in all, to be affected by decomposition.

A consignment of 132 cartons of beef kidneys was discharged from the vessel "Mahronda" in Liverpool in July. Preliminary examination on the quay showed a percentage of the kidneys to be decomposing. The consignment was then detained in a cold store for a 100 per cent examination which was completed on the 1st July. This showed 365 kidneys (367 lbs.) to be affected by decomposition.

A consignment of 355 cartons of beef kidneys was discharged from the vessel "Media" in Liverpool in August. Preliminary examination on the quay showed a percentage of the kidneys to be decomposing. The consignment was then detained in a cold store for a 100 per cent examination, which was completed on the 8th August. This showed 43 cartons (441 lbs.) in all to be affected by decomposition.

A consignment of 157 cartons of beef kidneys was discharged from the vessel "Plainsman" in Liverpool in August. Preliminary examination on the quay showed a percentage of the kidneys to be decomposing. The consignment was then detained in a cold store for a 100 per cent examination which was completed on the 24th August. This showed 3,453 kidneys (3,253 lbs.) in all, to be affected by decomposition.

A consignment of 182 cartons of beef kidneys was discharged from the vessel "Britannic" in Liverpool in October. Following a preliminary examination on the quay the consignment was detained in a cold store for a 100 per cent examination which was completed on the 27th October. This examination suggested that 10 cartons were unsatisfactory. A detailed examination was made of these cartons and a total of 230 individual kidneys was rejected owing to decomposition: this totalled 214 lbs.

A consignment of 26 cartons of beef kidneys was discharged from the vessel "Media" in Liverpool in November. Following a preliminary examination on the quay the consignment was detained in the cold store for a 100 per cent examination which was completed on the 4th November. This showed 336 kidneys (350 lbs.) to be affected by decomposition.

A consignment of 111 cartons of beef tails was discharged from the vessel "Britannic" in Liverpool in December. Following a preliminary examination on the quay the consignment was detained in the cold store

for a 100 per cent examination which was completed on the 15th December. This showed the whole consignment to be affected by decomposition. The rejected meat totalled 573 lbs.

A consignment of 1,000 cartons of beef livers was landed from the vessel "Nova Scotia" in Liverpool in December. Following a preliminary examination on the quay the consignment was detained in a cold store for a 100 per cent examination. This examination suggested that 408 cartons were unsatisfactory. A detailed examination was made of these cartons and a total of 189 cartons was rejected, owing to decomposition: this totalled 6,048 lbs.

A consignment of 198 cartons of beef kidneys was discharged from the vessel "Helga Smith" in Liverpool in December. Following a preliminary examination on the quay the consignment was detained in a cold store for a 100 per cent examination. This examination suggested that 75 cartons were unsatisfactory. A detailed examination is being made of these cartons and hitherto 1,615 kidneys have been rejected, owing to decomposition: this totals 1,641 lbs.

Throughout the year 34 vessels carried consignments of bulk lard from U.S.A. Samples taken in 1959 were of uniformly high quality, and accordingly the scale of sampling was reduced in 1960: documents certifying that the permitted level of antioxidants has not been exceeded accompany each consignment. Lard from 6 of the 34 ships was subjected to detailed analysis and all samples were satisfactory and conformed to the Anti-Oxidants in Food Regulations, which limits these preservatives to 200 parts per million. As the containers are always built into the construction of the ship the Recognised Official Certificates are accepted when accompanying the ship's papers.

Meat from Argentine

A consignment of 20 heavy lamb carcasses was discharged from the vessel "Devis" in Liverpool in August. Following a preliminary examination the consignment was detained for a 100 per cent examination which was completed on the 4th August. This showed 2 carcasses in all to be affected with caseous lymphadenitis: this represents 10 per cent of the consignment. The rejected meat totalled 12 lbs.

A consignment of 48 teg lamb carcasses was discharged from the vessel "Devis" in Liverpool in August. Following a preliminary examination the consignment was detained for a 100 per cent examination which was completed on the 5th August. This showed 3 carcasses in all to be affected with caseous lymphadenitis: this represents 6.25 per cent of the consignment. The rejected meat totalled 9 lbs.

A consignment of 281 heavy lamb carcasses was discharged from the vessel "Defoe" in Liverpool in September. Following a preliminary examination the consignment was detained for a 100 per cent examination which was completed on the 12th September. This showed 20 carcasses in all to be affected with caseous lymphadenitis: this represents 7.1 per cent of the consignment. The rejected meat totalled 264 lbs.

A consignment of 392 heavy lamb carcasses was discharged from the vessel "Debrett" in Liverpool in October. Following a preliminary examination the consignment was detained for a 100 per cent examination which was completed on the 11th October. This showed 15 carcasses in all to be affected with caseous lymphadenitis: this represents 3.8 per cent of the consignment. The rejected meat totalled 55 lbs.

A consignment of 433 heavy lamb carcasses was discharged from the vessel "Debrett" in Liverpool in October. Following a preliminary examination the consignment was detained for a 100 per cent examination which was completed on the 13th October. This showed 27 carcasses in all to be affected with caseous lymphadenitis: this represents 6.2 per cent of the consignment. The rejected meat totalled 245 lbs.

Canned Meat from Czechoslovakia

A consignment of 20 cases of canned hams was discharged from the vessel "Hungestroom" in Liverpool in November. 12 tins were incubated for 6 days at 37° F. Four of them became blown and were found to contain *clostridium welchii*, and one contained aerobic sporing organisms of the bacillus group. The whole consignment was rejected. The rejected canned meat totalled 1,065 lbs.

Canned Meat from Yugoslavia

A consignment of 50 cases of canned hams, was landed in this port late in November: each case consisted of six tins each weighing approximately 10 lbs. In view of previous experience it was decided to sample this

consignment, which superficially appeared sound. Originally two tins from the consignment were sent for bacteriological examination and the report showed that both tins blew after incubation. In one tin aerobic sporing organisms of the clostridium group, and in the other tin aerobic organisms of the bacillus group, were detected. Further tins were taken for sampling. Three of these tins blew after incubation and were found to contain clostridium welchii. The parcel was therefore rejected.

In addition to the above consignment, over 9,000 tins (totalling approximately 77,000 lbs.) containing hams of Yugoslav origin and imported through ports other than Liverpool, have been rejected by inspectors in Liverpool warehouses within the last six months. The brands concerned are DREINA, MIP, SLJME, MITROS, and YUHOR. Throughout, the preponderance of the tins rejected were blown or burst: bacteriological examination of tins from faulty consignments, not yet blown, showed evidence of widespread contamination by anaerobic and aerobic organisms. Most of these consignments were imported through either London or Harwich, but no reflection is, of course, intended upon the standard of inspection at these ports, as it is clear that deterioration shows itself, in many cases, only after a period of storage.

Bulk Lard from France

Seven ships during 1960 brought bulk lard from France. All consignments were sampled and found satisfactory and in conformity with the Anti-Oxidant Regulations.

Bulk Lard from Belgium

Two ships during 1960 brought bulk lard from Belgium. Samples were taken and the consignments were found to be satisfactory.

Bulk Lard from Canada

Only one consignment of bulk lard arrived from Canada during 1960. Owing to the consistently excellent standard of this commodity, when imported from Canada, routine samples were not taken.

Official Certificate Procedure

It is clear that many of the incidents reported upon provide definite evidence that official certificates have been improperly attached to certain consignments of meat which cannot, in view of the findings here, have

possibly been submitted to the inspection required by the certificates. Accordingly it is not possible to treat the official certificate as a document which in any way exempts a consignment from thorough examination or delay, though this was, no doubt, one of the original intentions of the system.

During the year there have been a small number of instances in which Official Certificates have not been attached, as the Regulations require, to packages of imported meat or meat products. When the importations themselves have been found to be sound the importers have usually been given the opportunity, if the absence of the certificate appears to be due to a simple clerical error, of obtaining the necessary documents, after which the consignments have been released. Where it appears that the Official Certificate had not been issued, or where it could not be produced after a reasonable interval, the goods concerned were either re-exported or diverted for purposes other than human consumption.

EGG PRODUCTS

Fifteen consignments of egg products, totalling 50,066 separate packages, were landed in the port during 1960: ten consignments were exported from U.S.A. and five from Australia. Of the ten consignments from U.S.A. three were considered wholly or in part unsatisfactory and of the five consignments from Australia two were considered in part unsatisfactory. As in previous years, whole consignments were divided into code markings, according to information supplied either by the documents or by the importer. This scheme ensured that sampling results led either to the release or rejection of only the appropriate fraction of the consignment. (The forms in which the egg was imported included frozen egg albumen, granular albumen, frozen liquid whole egg, and powdered egg yolk.)

Egg Products from U.S.A.

A consignment of granular egg albumen (200 x 56-lb. cartons) was landed from the vessel "American Chief" in August. Forty-five samples were taken and submitted for bacteriological examination. The results showed contamination by *Salmonella tennessee* (3 samples) and *Salmonella montevideo* (1 sample). The appropriate codes (consisting of 66 x 56-lb. cartons) were therefore rejected and the cartons were re-exported to U.S.A.

A consignment of pasteurised egg solids (3 x 100-lb. drums) was landed from the vessel "American Veteran" in November. Three samples were taken and submitted for bacteriological examination. The results showed contamination by *Salmonella oranienburg* (1 sample). The appropriate codes (consisting of 3 x 100-lb drums) were therefore rejected and the drums were re-exported to U.S.A.

The above two consignments had been processed at a plant in Zanesville, Ohio. Documents accompanying these importations stated that they had been heat treated. In the case of the consignment aboard the "American Chief" there was also a certificate stating that this albumen had been sampled and found to be free from salmonellae.

The contamination which was detected in Liverpool was reported both to the Agricultural Attache at the American Embassy and also directly to the Health Commissioner for Zanesville, Ohio, U.S.A.

A consignment of frozen egg albumen (3,015 x 30-lb. tins) was landed from the vessel "Helga Smith" in December. Sixty-nine samples were taken and submitted for bacteriological examination. The results showed contamination by *Salmonella typhimurium* (1 sample), *Salmonella montevideo* (1 sample), *Salmonella infantis* (1 sample) and *Salmonella oranienburg* (2 samples). The appropriate codes (consisting of 1,000 x 30-lb. tins) were therefore rejected but arrangements for disposal have not yet been made.

Egg Products from Australia

A consignment of frozen liquid whole egg (10,000 x 28-lb. tins) was landed from the vessel "Carnatic" in November. One hundred and twenty-three samples were taken and submitted for bacteriological examination. The results showed contamination by *Salmonella typhimurium* (4 samples). The appropriate codes (consisting of 311 x 28-lb. tins) were therefore rejected. Arrangements for the disposal of the contaminated codes have not yet been made.

A consignment of frozen liquid whole egg (7,793 x 28-lb. tins) was landed from the vessel "Port Launceston" in December. Seventy-eight samples were taken and submitted for bacteriological examination. The

results showed contamination by *Salmonella typhimurium* (2 samples) and *Salmonella hessarek* (2 samples). The appropriate codes (consisting of 899 x 28-lb. tins) were therefore rejected. Arrangements for the disposal of the contaminated codes had not been completed by the end of the year.

All the remainder of these importations were quite satisfactory.

No egg products were imported from China during 1960.

FISH

Prawns from Japan

Three consignments were landed in Liverpool during 1960. They were assessed by the standard which was established in 1959, as follows:—

(1) Faecal coli should be less than 10 per gram in 80 per cent of samples and always less than 100 per gram in all samples.

(2) *Staphylococcus aureus* should be absent from 1 gram in all cases.

(3) *Salmonella* should be absent from 50 grams in all cases.

(4) The colony count after incubation for 24 hours at 37° C. should be less than 100,000 in 80 per cent of samples and less than 1,000,000 in all samples.

Failure on more than one criterion would be regarded as warranting condemnation.

The first consignment, landed in April, showed a very great improvement upon the consignments landed in 1959. The average colony count per gram was less than 1,000 and coliforms and *B. coli* was absent throughout.

A second consignment, landed in September, was far from satisfactory. Ten samples were taken: the colony count showed an average of approximately 500,000 and 1 sample produced a figure of over 2,000,000. Coliform organisms were present in half of the samples. *Staphylococcus aureus* was present in 8 samples and *clostridium welchii* in 4. It was decided that this was an unsatisfactory consignment and it was therefore rejected and re-exported to Japan.

A third consignment of Japanese prawns was landed in November and five samples were not entirely satisfactory. The number and variety of organisms present, however, did not justify rejection, and the distribution of the consignment was permitted. A warning letter was sent to the importers.

Prawns from China

Four consignments in all were landed during the year. At the request of the importers these consignments were sampled together. 28 samples, covering the four consignments, were taken and these showed an average colony count exceeding 2,000,000 per gram: coliform organisms were present in every sample and clostridium welchii was present in 6 samples. These consignments were accordingly rejected, and all were later re-exported to Canada. The health authorities at the port of entry were notified of the arrival and condition of the consignment.

Shrimps from China

A consignment of Chinese shrimps, the first to be landed in Liverpool, arrived in April. They were assessed according to the standard agreed for prawns (see above) and were found to be very satisfactory.

Frozen Breaded Shrimps from U.S.A.

A consignment of American frozen breaded shrimps was landed in November. Colony counts were high, and there was evidence of undesirable organisms. As the number of the latter, however, was small it was decided not to reject the consignment, and a warning letter was sent to the importers.

Mussels

Uncleansed mussels are regularly imported from Ireland to various destinations in this country for cleansing. Such consignments have been addressed to Chester, Berwick-on-Tweed, Lytham, and Hull. A total of 950 bags were landed during the year.

In each case the appropriate Medical Officer of Health is notified of the dispatch of the mussels, usually by telephone in view of the urgency of the matter.

It may be noted here that the Minister of Health has approved, under the Public Health (Shellfish) Regulations 1934 three further establishments for the cleansing of shellfish:

(1) An establishment at Portmadoc, North Wales, managed by Mrs. B. W. Roberts.

(2) An establishment at Bangor, North Wales, managed by the Severnside Oyster Company Limited.

(3) An establishment at Portmadoc, North Wales, managed by Portmadoc Mussels Limited.

FRESH FRUIT AND VEGETABLES, ETC.

Fresh fruit and vegetables have been landed in generally good condition, though quantities of over-ripe fruit are regularly observed and rejected.

Potato Blight

Three consignments of new potatoes, produce of Greece, were landed from the vessel "Lancastrian" in May. Two consignments consisted of new potatoes in bags and totalled, in all, 37,093 bags, each containing 56 lbs. of new potatoes. The three consignments consisted of 2,500 cases, each containing 72 lbs. of new potatoes. On examination it was found that the three consignments were affected with a fungus *phytophthora infestans* (potato blight) and evidence of decomposition was also found.

Of the new potatoes in bags, 18,023 bags were found to be unfit for human consumption and destroyed: 4,028 bags were found to be fit for human consumption and were therefore released: 15,042 bags were released to Stoke, Edgware, Faversham and Pershore for further sorting under the supervision of the appropriate officials.

Of the new potatoes in cases 1,430 cases were rejected as unfit for human consumption and 1,070 cases were, after sorting, found to be sound and released.

A quantity of dried fruit landed from the same ship was found to be affected by decomposition and was accordingly rejected.

Decomposition in Apples

A consignment of 1,000 cartons, each containing 40 lbs. of apples, the produce of U.S.A., was landed from the vessel "Britannic" in November.

These apples were packed in airtight envelopes and showed evidence of decomposition: it is normal for such envelopes to have a number of small holes to permit movement of air, evaporation, etc. The fruit comprising this consignment was examined and some of it was decomposing.

A full examination was undertaken on the quay and 56 cartons were rejected.

Sampling under the Public Health (Preservatives in Food) Regulations

Regular samples were taken from importations of citrous fruit for examination under the above Regulations. In all 21 such samples were taken during the year. No contraventions against the above Regulations were detected.

Eighteen samples were taken from eighteen individual consignments of apples landed in Liverpool and also sent for examination under the above Regulations. Sixteen samples were satisfactory and two showed slight evidence of a harmful insecticide. The attention of the importers was drawn to this and it was decided that no further action was necessary.

Tea with Metallic Contamination

Information was received from the Medical Officer of Health for the Port of London, at the end of 1959, that samples of Formosa tea showed contamination with lead. Three consignments of this commodity, totalling 593 chests, each containing 110 lbs., were landed from the vessel "Ocean Coast" late in December, 1959 and were sampled early in January, 1960. These three consignments had been transhipped in London and were brought to Liverpool under Customs bond.

Five samples were taken and submitted for analytical examination. None showed evidence of lead but quantities of arsenic and copper were present, closely approaching the permitted level. The importers were warned of this and we were informed that this particular type of tea was normally blended with other types, at a rate not exceeding 4 per cent of Formosa tea and that this would accordingly reduce, overall, the quantities of contaminants to an exceedingly low level.

Further samples of Formosa tea taken later in the year proved entirely satisfactory.

BEANS CONTAMINATED WITH LEVELITE

Throughout the year large quantities of Madagascar Butter Beans were landed from 17 ships. These beans are invariably treated with levelite which is an undesirable insecticide. A total of 30,850 bags were specially detained and subjected to mechanical cleaning under the supervision of food inspectors of the Port Health Authority, and the importers were permitted to remove a further quantity for cleansing under public health arrangements elsewhere.

FROZEN CREAM FROM AUSTRALIA

A consignment of 250 cartons, each containing 36 x 4-oz. cups, of frozen cream, produce of Australia, was landed in Liverpool from the vessel "Otaio" on the 6th September. As this was the first consignment of cream, in this form, to be landed for several years, it was decided to submit samples for bacteriological examination. In all, ten samples were taken, which all proved satisfactory.

TINNED GOODS OTHER THAN MEAT

Consignments of tinned goods containing meat or meat products have already been dealt with under the section of this report relating to meat and meat products. The condition of tinned goods, entering the port during 1960, was generally very good. In many cases, however, faults affecting small numbers of tins were detected upon examination and dealt with appropriately. The total number rejected is shown in the table on page 60.

The following consignments appeared to be of special interest, and are therefore mentioned individually:

Grapefruit from Israel

A consignment of 750 cartons of tinned grapefruit, produce of Israel, was landed in September from the vessel "Karnak". Each carton consisted of 24 x 11-oz. tins. Staining of the cartons was observed after unloading, and a full examination was undertaken of this consignment: it was found that approximately 50 per cent of the tins were either blown or burst. This discovery led to a full examination of all tins of grapefruit having a similar origin which were stored in the warehouse. This further examination included 300 cartons each containing 48 x 8-oz.

tins which had been landed from the vessel "Nerissa" earlier in the year. During the course of the inspection a supplementary consignment of identical origin, consisting of 532 cartons each containing 24 x 11-oz. tins, arrived from London. These tins were also completely examined.

Sound, doubtful and blown tins were submitted for both bacteriological and analytical examination. No evidence of bacterial contamination was detected. Analytical examination, however, showed a very high proportion of tin in the fruit and juice. The permitted level of tin is 280 parts per million, expressed as a fraction of dry solids: the specimens submitted for examination showed an average quantity of tin exceeding 1,100 parts per million. It appears that the tin had not been adequately lacquered, and the high acidity of the fruit juice had dissolved the metal of the container, leading to an excess of tin in the grapefruit and the production of hydrogen gas which led to blowing and bursting of the tin concerned. Half of all the tins examined were found to be affected by this condition, known as "hydrogen swell". Accordingly all three consignments were rejected and the importers were informed of the reason for the unsatisfactory nature of the consignment and were advised to use tins which had been properly lacquered in the future.

Plums from Yugoslavia

A consignment of 250 cartons of plums, produce of Yugoslavia, each carton containing 6 x 7-lb. tins, was landed from the vessel "Patrician" in January. Examination on the quay showed that a quantity of tins were blown. A full examination was therefore undertaken. 1,044 x 7-lb. tins were found to be blown and burst: these tins were therefore rejected.

Tomatoes from Bulgaria

A consignment of 1,000 crates of tomatoes, each containing 12 x 1½ lb. glass jars, produce of Bulgaria, was landed from the vessel "Christo Botev" in April. It was observed that certain jars were leaking and a full examination was undertaken: this led to the rejection of 63 crates. A further examination was made after an interval of three weeks and 50 per cent of the jars were found to be leaking. Samples were sent for bacteriological examination and contamination with aerobic spore-bearing organisms, diphtheroid organisms, and fungal hyphae was reported. The full consignment was accordingly rejected.

Two further such consignments were landed later in the year. The first consisted of 400 crates each containing 12 x 2-lb. jars and was landed from the vessel "Rodina" late in April. A further consignment consisted of 450 crates each containing 12 x 1½ lb. jars and was landed from the vessel "Nicola Vaptzarov" in June. In both cases a large proportion of the jars were found to be leaking and the consignments were accordingly rejected.

Tomatoes from Italy

A consignment of 2,550 cartons of canned tomatoes, each containing 72 x 8-oz. cans, produce of Italy, was landed from the vessel "Almerian" from Italy in November. It was observed that certain cans were blown and burst and a full examination was made. This examination showed 7 per cent of the consignment to be blown and burst. 13,104 x 8-oz. tins were rejected.

FOODSTUFFS DAMAGED BY FIRE

Following a dockside fire affecting goods discharged from the vessel "Britanny" in March, inspection was undertaken of certain quantities of imported foodstuffs. A quantity of 449 bags of cocoa press cake was found to be damaged by fire and was released to a processing firm in Hull for extraction purposes, where the Medical Officer of Health agreed to supervise the matter.

A consignment of 900 cartons of jelly crystals, each containing 48 x 3-oz. packets, was damaged on the same occasion by both fire and water and was fully examined. In all a total of 342 cartons and 26 individual packets were rejected.

The same incident led to a full examination of 8,000 cartons of grapefruit. Many of these tins had been severely damaged by fire and the grapefruit inside the tins had been charred. In many cases tins were blown or perforated. In all 107 cartons and 12 individual tins were rejected.

IMPORTATIONS OF MEAT, NOT FOR HUMAN CONSUMPTION

There is a considerable traffic in this commodity, which became subject to the Meat (Staining and Sterilisation) Regulations, 1960. The details of the traffic, and the effect of the Regulations, are dealt with under the heading of New Legislation.

IMPORTATIONS OF FOOD, OTHER THAN MEAT, NOT FOR HUMAN CONSUMPTION

A considerable quantity of whalemeat and fish is landed annually for conversion to animal foodstuffs. During 1960 a total of 119,179 packages of whalemeat and 33,079 packages of fish were landed and transferred to processing establishments for conversion into animal food.

EXCHANGE OF INFORMATION

Information Circulars

It has long been apparent that there is a serious deficiency in the rapid interchange of information between port health authorities. Inspection of foodstuffs at seaports can, in view of the needs of commerce, be conducted only on a sampling basis and it is not impossible that undesirable material may from time to time elude the attention of the most vigilant staff. Accordingly, positive findings, whether from sampling or otherwise, obtained in any one seaport should be of great assistance and guidance to Medical Officers at other seaports where, perhaps, the same commodity is due to be landed. It may be said that the Ministry of Health should be the appropriate centre for reception and distribution of such information: nevertheless experience has shown that information passed through this channel does not reach other examining authorities sufficiently rapidly, and, in addition, it is not always appropriate to report minor defects to the Ministry.

With these considerations in mind, it was decided, following an address delivered by the Medical Officer for the Port of Liverpool to the Annual Conference of Sea and Air Port Health Authorities in July, that information, derived from food examination here and likely to be of interest to other seaports, would be regularly circulated upon an agreed proforma. Ten major seaports were put upon the list for circulation and when any items of imported food, hitherto considered sound, were found to be seriously defective, the proforma was completed and distributed.

It is not yet known what effect these circulars have had upon the problem of food inspection at other ports. No correspondence has been received, though two other ports have circulated information to Liverpool upon similarly-designed forms. Between August and the end of the year 27 such circulars were distributed from Liverpool. The Medical Officer has, as stated, selected ten ports for this distribution list, but would, of course, be very pleased to circulate this information to any other seaports interested. A copy of this proforma is shown on the next page.

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PORT HEALTH AUTHORITY,
HEALTH DEPARTMENT,
HATTON GARDEN,
LIVERPOOL, 3



OFFICER ANDREW B. SEMPLE
V.R.D., M.D., D.P.H.
MEDICAL OFFICER OF HEALTH

YOUR REF

OUR REF.....

PLEASE ADDRESS ALL CORRESPONDENCE
TO THE MEDICAL OFFICER OF HEALTH

Dear Sir,

Imported Foodstuffs

Commodity
Mark
Quantity
Country of Origin
Ship
Date of Landing
Importer

The above foodstuffs were sampled on with the following positive results:

.....
.....
.....
.....

The consignment has been dealt with in Liverpool, and I am forwarding this information to you should similar consignments be landed at your port.

Yours faithfully,

Andrew B. Semple

Medical Officer of Health.

The Medical Officer of Health,
Port of,
.....

Copies to Ministry of Health,
Ministry of Agriculture, Fisheries & Food.

Apart from this organised system of information, two quarterly returns are made to the Ministry of Agriculture, Fisheries and Food: one gives full details of any consignments of meat or meat products, imported through Liverpool, and found to be seriously unsound. The other gives details of all contraventions of the Recognised Official Certificate system.

Routine Notifications

Throughout the year many communications were sent to Medical Officers of other districts relating to consignments of foodstuffs which had been found unfit in Liverpool and which it was proposed, by the importers, to send elsewhere for reconditioning, for processing, for conversion into animal food or for industrial purposes. No foodstuffs, known to be contaminated with salmonellae, are now released for animal feeding purposes unless sterilisation occurs during processing. Among foodstuffs released for industrial purposes, conversion into animal foods or for re-export via other ports, were chopped pork (blown tins: used for industrial purposes); beans and rice (dirty: used for animal food). Among foodstuffs released after permission of the appropriate medical officer has been obtained for human consumption after reconditioning, sorting, or processing elsewhere were potatoes (potato blight); desiccated coconut (contaminated by salmonellae, for heat treatment); sultanas (contaminated by yellow ochre or dirty); raisins (found to be mouldy); ground nuts, and beans (dirty); rice (affected by damp and decomposition).

As stated the movement of these consignments was approved only when the appropriate medical officer of health agreed to receive the goods and to supervise their disposal.

NEW LEGISLATION

During 1960 there have been two enactments, affecting the work of food inspectors in the Port of Liverpool:

(1) The Meat (Staining and Sterilisation) Regulations 1960

Broadly, these Regulations require that any meat, which is imported and is known to be unfit for human consumption and any meat, which, having been imported for human consumption, is found, after inspection, to be unfit for these purposes, must either be sterilised in the port area or moved to a place where sterilisation can be undertaken in such a way as

to ensure that there can be no pilferage or disposal of the meat en route: this is assured by the requirement that such meat may be moved only in a container which is locked and suitably labelled.

A large quantity of meat and offal is landed annually in Liverpool for conversion into animal food. Throughout the year 196,399 separate packages of meat and offal were landed for this purpose. These consignments come principally from Australia, New Zealand and Southern Ireland. Up to October 31st it was the practice of the Liverpool Port Health Authority to notify, in relation to each individual consignment, the appropriate medical officer of health of the arrival and dispatch of such material. Immediately before the Regulations came into force, enquiries were made of the six major processing firms, which regularly receive such material, to ascertain the nature of the processing applied to meat and offal during its conversion into animal food. In each case schedules of temperature and times of exposure were forwarded by the firm concerned: all were found satisfactory and it was therefore clear that the requirements of the new Regulations were adequately satisfied when these firms received meat unfit for human consumption. The medical officers of health of the areas concerned were notified that we had been in communication with these firms, and it was decided that further individual notifications were unnecessary: they have now been discontinued.

The requirements of these Regulations, concerning containers, were brought to the attention both of the firms concerned and all organisations who undertake transport of this material. Co-operation was readily secured.

(2) The Food Hygiene (Docks & Carriers, etc.) Regulations 1960

This enactment came into force on the 1st November, 1960, though certain of its provisions, particularly those relating to alterations in premises, are deferred until May, 1961. The intention of these Regulations is to ensure that food, handled in transit, is not exposed to unhygienic conditions: the provisions of the Food Hygiene (General) Regulations are modified in relation to the special conditions found on docks, on quays, in public warehouses, and in cold stores. Employers are responsible for ensuring that those handling food in seaports do not place it where contamination is likely: dockers and others handling food accessible to contamination have certain obligations in relation to clothing and personal

cleanliness, though these provisions apply only to such persons who handle food which is not packed in such a way as to exclude risk of contamination: though washing and toilet facilities of certain standards are required under the Regulations, the stringent provisions of the Food Hygiene (General) Regulations are somewhat modified.

The primary duty of a port food inspector has always been to ensure that food, when imported, is suitable for human consumption: nevertheless the inspectors have always watched carefully for unhygienic conditions which might lead, within the port, to the contamination of food otherwise sound. Hitherto the inspectors have discharged this aspect of their duties informally and their advice has always been accepted. It is, nevertheless, a considerable benefit that these requirements have now been put into legislative form.

The following table shows the total quantities of unsound foodstuffs either destroyed or utilised under supervision during the year 1960:—

	Tons	Cwts.	Qrs.	Lbs.
Beef, Mutton, Pork and Veal	7	—	—	—
Offal (Beef, Mutton, etc.)	11	16	1	—
Canned Goods	185	16	1	—
Fruit and Vegetables	2,535	9	3	—
Cereals	678	7	1	—
General (Lard, Coconut, Butter, etc.) ...	159	10	1	—
Total	3,577	19	3	—

A total of 151 tons 12 cwts. 3 qrs. 16 lbs. of unsound sugar (loose-collected, sweepings, etc.) was dealt with during the year, and suitably disposed of to local refiners for reconditioning.

The following tables show the variety and numbers of samples submitted to the Public Health Laboratory Service and the City Analyst during the year 1960:—

Samples relating to imported food

Submitted to the Public Health Laboratory Service

Desiccated Coconut	8,265
Frozen Cream	10
Ham, canned shoulder	11
Tomatoes, bottled	2
Shrimps, frozen peeled	37

Pork, canned	...	...	...	...	3
Prawns, frozen	...	...	...	...	49
Ham, canned	...	...	...	...	26
Ox Tongues, canned	...	...	...	...	2
Pork Kidneys, canned	...	...	...	...	5
Egg Albumen	...	...	...	...	152
Liquid Whole Egg	78
Dried Egg	3
Frozen Egg Powder	2
Frozen Egg	415
Frozen Egg Yolk	11

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Submitted to the City Analyst

Apples...	18
Grapefruit, canned	24
Lard	30
Lemons	1
Oranges	...	...	...	...	20
Tea	...	...	...	...	7

Samples relating to investigations following food-poisoning and other illness within the port*Submitted to the Public Health Laboratory Service*

Ships' Drinking Water	...	...	...	...	306
Cheese	...	...	...	...	1
Sausage	...	...	...	...	7
Cockles	...	...	...	...	3
Food, various	...	...	...	...	13
Tomatoes	...	...	...	...	3
Wine, various	...	...	...	...	11

In addition to the above, 101 samples of faeces were submitted for bacteriological examination.

MISCELLANEOUS OFFICIAL VISITS

The Permanent Secretary of the Ministry of Health, Mr. B. D. Fraser, visited the Health Department, Liverpool, at the end of November. He visited Princes Landing Stage and boarded the Port Health tender "William Gregson" and was shown a demonstration of the procedure which is followed when a case of smallpox is brought to a river landing stage by the tender from an incoming vessel. The Permanent Secretary later visited Alexandra Dock Cold Store and witnessed a detailed inspection of a consignment of imported meat.

Dr. Wior, an epidemiologist from the Polish Ministry of Health, visited the Health Department in April. Dr. Wior was chiefly interested in precautions against the major epidemic diseases and had several discussions with members of the Health Department upon this topic.

DISPLAYS, INFORMATION, ETC.

In June a Merseyside Shipping Organisation arranged a display in Bluecoat Chambers in Liverpool of all aspects of work in the port. The Port Health Authority were asked to provide a stand, illustrating their own endeavours, and this stand demonstrated the work of the medical officers, the port health inspectors and the port food inspectors and items of actual equipment used by these sections were on view. In addition to this a rotoscope with recorded commentary, provided a visual display of the actual performance of these duties.

Later in the year an exhibition of Municipal Progress was held at the Walker Art Gallery. Again there were items representing the port food inspection service. This exhibition attempted, as a whole, to show developments and illustrations in municipal duties during the last fifteen years: this enabled an account to be given both of the varying nature of foodstuffs imported and the more modern techniques necessary for their inspection.

A request for information, concerning the structure, functions, and methods of the port food inspectorate was received from a major Mediterranean port, where such an organisation was in the process of development. Full details were sent.

I desire again to express my appreciation of the valuable assistance received from H.M. Collector of Customs and staff, Ministry of Transport, the Mersey Docks and Harbour Board and their officers, river pilots, and the various shipping companies who have co-operated with the Port Health Authority in the maintenance of Public Health and the prevention of disease in the port. The Consular Bodies have at all times given courteous assistance.

ANDREW B. SEMPLE,
Medical Officer of Health,
Liverpool Port Health Authority.